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WHAT IS CLAIMED IS:

Patent Claims

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1. A method for reducing the data traffic between track-bound vehicles traveling along a route and devices along the route in which the vehicles register their request to be allowed to travel along the route and the vehicles are assigned permission to travel along the route according to predefined rules, the vehicles determining their respective location themselves, characterized in that the vehicles (Z1) traveling ahead are moved closer to following vehicles (Z2) up to at most their braking distance (BA2),

in that the vehicles (Z1, Z2) are then virtually coupled,

in that the virtually coupled vehicles move forward together, but independently of one another, using a vehicle-mounted distance-maintaining system (AS), and in that the devices (E) along the route then treat them as a single vehicle train whose front is determined by the front vehicle of the vehicles which were previously traveling ahead and whose rear is determined by the rear vehicle of the vehicles which were previously traveling behind.

2. The method as claimed in claim 1, characterized in that more than two successive vehicles/vehicle trains can be coupled to form a virtual composite vehicle train.

3. The method as claimed in claim 1 or 2, characterized in that train integrity checks are performed by the vehicles and appropriate messages are transmitted at least indirectly to the devices along the route.

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4. The method as claimed in claim 1 or 2, characterized in that for the braking distance, in addition to the relative braking distance of the successive vehicles or the absolute braking distance of the following vehicles, safety supplements are taken into account at least for the confidence interval of the locating process, as well as data-transmission and data-acknowledgement times.

5. The method as claimed in one of claims 1 to 4, characterized in that the virtual coupling of the vehicles is canceled again if necessary, whereupon the devices along the route communicate with the individual vehicles/vehicle trains again.

6. The method as claimed in claim 5, characterized in that the vehicles communicating with the devices along the route inform the latter about the vehicles which are coupled to them virtually, and in that, in response to the detection of the cancellation of the virtual coupling the devices along the route again request at least separate location messages from the vehicles/vehicle trains following one another for the route sections along which they travel.

7. The method as claimed in claim 5, characterized in that, after the cancellation of the virtual coupling, the vehicles which have until now been coupled virtually report to the devices along the route and output at least separate location messages for the route sections along which they travel.

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8. The method as claimed in one of claims 1 to 7, characterized in that the virtual coupling of the vehicles is performed or canceled by the vehicles.

5 9. The method as claimed in one of claims 5 to 8, characterized in that the virtual coupling is canceled when faults are detected in the distance-maintaining system.

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